DOCUMENT RESUME

ED 146 174 TM 006 492

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TITLE Validating an Affective Assessment Questionnaire for Statewide Educational Needs Assessment.
PUB DATE Apr 77
NOTE 35p.; Paper presented at the Annual Meeting of the American Educational Research Association (61st, New York, New York, April 4-8, 1977)

EDRS PRICE MF-$0.83 HC-$2.06 Plus Postage.
DESCRIPTORS Academic Achievement; Affective Behavior; *Affective Tests; Attitude Tests; Classroom Environment; Correlation; *Elementary Secondary Education; *Needs Assessment; State Programs; *Student Attitudes; *Test Construction; Test Reliability; *Test Validity
IDENTIFIERS Virginia; *Virginia Affective Assessment Questionnaire

ABSTRACT

As part of a needs assessment conducted for the Virginia public schools during the year 1969-70, the Virginia Affective Assessment Questionnaire (VAAQ) was developed. The VAAQ assesses affective traits, such as motivation and self concept, that are related to academic success--as measured by standardized achievement tests and performance in the communication skills which are basic to learning. The questionnaire also serves as a screening instrument for behavioral problems. The development, validation, and norming of the VAAQ over a seven-year period is described. During a second needs assessment program in 1974-76, 14,421 students were randomly selected from 60 Virginia school divisions. Using the Elementary, Intermediate and Secondary forms, all students were administered the VAAQ, a set of reading comprehension passages, and a writing exercise designed to elicit a one to two-page composition. The most recent achievement test data for each student in grades 4, 6, 9, and 12 were compiled from the statewide standardized testing program. Reliability estimates for the VAAQ were found to be comparable to those of other affective instruments. Studies of content, construct, and status validity have indicated the validity of the VAAQ in measuring student attitudes related to school success. (Author/HV)

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ED146174

"Validating an Affective Assessment Questionnaire for Statewide Educational Needs Assessment"

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I. Introduction: Objectives of the Study

Educational program planning and evaluation at the state level is becoming increasingly important. First, there is a general need for accountability at all program levels--local, state and federal--which is continually reiterated in the literature of educational administration.[1,2,3] It is obvious that we need to relate program features to program success, in order to be able to systematically improve our schools. Local administrators are becoming more and more aware of limits in the resources available for operating public schools. At the same time, state and federal administrators are responsible for getting a high return for investments in innovative or compensatory projects.[4,5,6]

These conditions have had several specific results. In 1968, the Virginia state legislature initiated development of the Standards of Quality and Objectives for Public Schools in Virginia.[7] These are progressive standards for educational programs, covering local management procedures, staffing requirements, specifications for

facilities, and requirements for specific instructional program features. They are administered by the Department of Education, and are reviewed and revised every two years to insure progressive growth in the school programs in Virginia. The standards represent a successful effort at the state level to establish regular planning and review of school programs according to specific objectives.

Concurrent with the development of the Standards of Quality, the Federal Programs Office in Virginia initiated a statewide educational needs assessment for the 1969-70 school year.[8] This project used documentary sources and authoritative input to identify specific curricular objectives for school programs in the state at the elementary, intermediate and secondary levels. These curricular objectives were related to cognitive achievement tests and to affective questionnaires designed specifically for the project. The purpose of the project was to identify levels of performance for the state as a whole which fell below identifiable objectives in both the cognitive and affective domains, and to identify disparities in performance among regions in the state which could be used to help local planning efforts.

This needs assessment project, conducted under ESEA Title III funds, provided a basis for developing innovative school programs which responded to documented program needs. Inherent in the administration of federal categorical programs is first, the need to approve individual programs which respond directly to the most pressing program needs, and second, the need to evaluate the success of the programs in meeting these needs.

One aspect of the Needs Assessment project was the development of instrumentation in both the cognitive and affective domains which could be used in the future for needs assessment and program evaluation. Cognitive objectives in the subject-matter areas were systematically related to items of standardized achievement tests, to determine the validity with which these tests could be used to measure the objectives. Affective questionnaires had to be developed to measure the status of public school students in relation to identifiable affective objectives.

It is necessary to measure affective objectives as part of the needs assessment and evaluation cycle, because of the role the student's self-confidence, interest, motivation, and cooperative abilities play in determining school success. School counseling strategies depend on the measurement of student attitudes and personality traits, and we are becoming increasingly aware of the need to account for student affective characteristics in designing instructional strategies.[9,10,11] This is particularly true when instructional programs are individualized.[12]

In contrast to aptitude and achievement tests, there is a lack of valid affective instruments, especially those which would be particularly useful in a school setting. From their beginnings with the Binet intelligence tests, aptitude tests have been geared to characteristics associated with school success, and achievement tests are keyed directly to specific elements of school curricula. Affective questionnaires usually measure general attitudinal, personality, or adjustment factors, not those variables which are directly relevant to school progress. In addition, most affective

questionnaires measure children's attitudes in terms of a clinical setting, or in terms of the child's general social environment, but not in terms of behaviors which are observable in the classroom or behaviors which are relevant to classroom activities. This leaves a big gap for a curriculum planner who wants to know what needs to be done to make students more interested and responsible in their work, or who wants to know if a program directed at student attitudes has had a direct impact.[13]

A major purpose of the Needs Assessment effort conducted in Virginia has been to develop, validate and norm a school-based measure of student attitudes which can be used by state and local program planners and evaluators. The Virginia Affective Assessment Questionnaire provides affective assessment which is related to academic success, as measured by standardized achievement tests and student performance in the communication skills which are basic to learning (reading, writing and spelling). It also serves as a screening instrument for behavioral problems.

II. Procedures

The Virginia Affective Assessment Questionnaire (VAAQ) has been developed over a seven-year period, encompassing two large data collection efforts and a validation approach using several independent strategies.

In 1969, the investigators of the first Needs Assessment project began development of the questionnaires with specification of a set of affective objectives. These objectives were restricted to behaviors which were measurable in a typical classroom situation.

Following this initial draft of the objectives by the investigators, these were reviewed and revised by public school teachers and principals, by State Department of Education officials, and by academic authorities on curriculum development and the affective domain. The objectives were written in four areas--self-esteem, interpersonal relations, attitudes toward school tasks, and citizenship. In each area, questionnaire items were written to correspond to the pre-specified objectives. Items were written in the form of statements with a five-point scale for the student to indicate the degree to which the statement was true or untrue for him or her. Three forms were developed initially, designed for elementary, intermediate and secondary pupils. Items were subjected to a readability analysis to insure they would be comprehensible to their target populations. This development process insured the content validity of the forms.

Following development of the prototype instruments, these were administered on a small pilot group; item-analysis and observation of test sessions were used to revise or discard certain items. The forms were reviewed again as a check on content validity. A second pilot test was made to insure that the forms would be convenient to administer, and to insure that the forms would not be offensive to laymen. This latter consideration is a major issue in measurement of affective variables, as many questionnaires delve into areas which are sensitive to parents, clergy or other groups, and the controversy which may result can hurt the assessment or evaluation process.

The form was administered in 1969-70 to some 25,000 pupils randomly selected in a stratified sample of 58 Virginia school divisions. Pupils were distributed in grades 4, 7 and 11. This administration of the forms provided indications of their validity, in addition to the content validation discussed above. First, the questionnaire scales were found to correlate significantly with school attendance, with student grade point average, and with corresponding scales of the California Test of Personality and the High School Personality Questionnaire. Second, a factor analysis showed the scales to be reasonably independent and cohesive. Finally, observation through one-way glass of a number of pupils in the classroom verified the accuracy of student self-response to the questionnaire.

Between 1969 and 1974, the forms were further validated by studying changes on the instrument when it was administered to pupils in various types of experimental programs. In pilot projects in experimental teaching, or in improving classroom climate, scores on the VAAQ were found to improve with changes in the school program. For example, an experimental counseling and teaching program was designed to improve self-concept and this resulted in improved VAAQ scores which were documented for the program pupils. In another program, videotaping was used to improve classroom interactions and again this resulted in improved VAAQ scores for program pupils.[14,15,16,17]

III. Large-Scale Validation, 1974-76

A second Needs Assessment project was conducted in 1974-76 with three primary purposes. One was to set benchmark levels of performance in communications skills, the second was to establish the validity of the VAAQ and set norms for the instrument, and the third was to determine if VAAQ scores were related to communication skills.

Students were randomly selected in each of the grades K through 12 in a stratified random sample of 60 Virginia school divisions. Approximately 14,421 students in Fall, 1974 and Spring, 1975 were tested as the validation and norm group. Of these, 3,312 students were administered the Secondary form, 4,113 the Intermediate form, and 6,996 the Elementary form. In addition, 745 students were administered the Primary form in grades K through 2. School divisions were stratified to be representative of the state's school systems in terms of size, density, geographical locale, socioeconomic features, and program characteristics. The school divisions tested in 1974-76 were those sampled in 1969-70, with divisions added to represent all of Virginia's regional planning districts.

For the Elementary, Intermediate and Secondary forms, all students were administered the VAAQ, a set of reading comprehension passages, and a composition exercise designed to elicit a one to two-page composition. For the Primary forms, only the second graders were administered reading and composition exercises. The reading comprehension passages were adapted from the

McCall-Crabbs Standard Test Lessons in Reading.[18] The composition protocols were similar to those used by Myklebust[19] and by the National Assessment of Educational Progress.[20] Compositions were scored according to counts of words written, number of sentences used, misspellings, and other variables, and a subset were manually rated for quality using the ETS Composition Rating Scale developed by Paul Diederich.[21] In addition to these instruments, the most recent achievement test data for each student in grades 4, 6, 9 and 12 were compiled from the statewide standardized testing program: SRA for grades 4 and 6, SCAT-STEP for grades 9 and 12.

Reliability and Validity

Reliability -- The reliability of the VAAQ forms was studied through correlation of split-half scores produced from the item responses obtained in the 1974-75 Needs Assessment testing. Split-half scores were obtained by summing responses on odd-numbered and even-numbered items. These summed scores were correlated and the correlations were adjusted using the Spearman-Brown formula to yield the following reliability estimates:

TABLE I
Reliability of the VAAQ

Grade and VAAQ	Reliability			
	Fall	(N)	Spring	(N)
Primary Form		---	.78	(748)*
Elementary Form	.88	(3498)	.89	(3498)
Intermediate Form	.93	(4113)	.96	(3554)
Secondary Form	.91	(3312)	.94	(2650)

*Based on data from administration of the instrument to 748 pupils in the Spring only.

These estimates are comparable to reliability estimates of other affective instruments, suggesting that the VAAQ forms are reliable indicators of student attitudinal characteristics.

Validity -- The validity of an instrument is generall defined as the degree to which the instrument actually measures what it was designed to measure. This can be determined in several ways--by logical analysis and review of the items (content validity), by studying the association of the instrument with the items (content validity), by studying the association of the instrument with other measures and analyzing patterns of responses in terms of reasonable hypotheses about the attributes the instrument is designed to measure (construct validity), and by studying scores in relation to observable states or characteristics of the respondents (status validity). The validity of the VAAQ has been studied over a seven-year period since its original development in 1969; these efforts have encompassed each of these types of validity analysis.

(A) Content Validity

The VAAQ items were originally written to correspond to specific, identifiable affective objectives for the public school program. These items were reviewed, revised, and assembled into prototype instruments, with item content and readability controlled to be appropriate to the level of each form. Since construction of the original items, the forms have gone through three cycles of review and revision by the authors and their staff. These efforts have concentrated on the deletion or revision of specific items

because: 1) the substance of the item was felt to be inappropriate or irrelevant to the purpose of the instrument; 2) item analysis indicated that the item did not contribute usefully to the power of the instrument; or 3) the item was too difficult for the target population to read. These review and revision procedures insured that the form would have a high degree of content validity.

(B) Construct Validity

Construct validity is concerned with the degree to which scores on an instrument behave in a predictable manner, consistent with the hypothesized characteristics of the attributes the instrument is designed to measure. It is studied through analysis of the scores in relation to scores on similar measures, or in relation to measures of other characteristics which can be hypothesized to be related in certain ways.

In the Phase I Needs Assessment conducted in 1969-70, strong, positive correlations were discovered between the VAAQ scores and student grade point average and attendance. Further, significant correlations were discovered between the VAAQ scales and similar scales on the *High School Personality Questionnaire*.[22] Finally, a factor analysis of the VAAQ subscale scores substantiated the presence of four factors related to the subscales.[23]

Between 1970 and 1974, the VAAQ was administered in several pilot projects in experimental teaching, classroom climate, and classroom interactions. Significant increases on the VAAQ scores were discovered when classroom climate was improved, when positive classroom interactions were increased, or when the instructional program was improved.[24,25,26,27,28,29]

In the Phase II Needs Assessment conducted in 1974-75, the VAAQ was studied in relation to student achievement. VAAQ Subscale and Total scores were correlated with standardized achievement measures. For the Elementary form, the scores of elementary students on the SRA battery were used; for the Intermediate and Secondary forms, the scores of intermediate and high school students, respectively, on the SCAT-STEP battery were used. The results are shown in Tables II-IV. Strong, position correlations ranging from .35 to .52 were discovered between the VAAQ Total score and the achievement measures. Further, the VAAQ subscales were found to be significantly associated with the achievement tests in most cases. The results indicate that the VAAQ measures attitudes which are associated with school performance, as measured by nationally-standardized achievement batteries.[30]

In the Phase II Needs Assessment, data were also collected to determine whether the VAAQ scores were associated with basic communication skills which are required for successful school progress, and to determine whether the VAAQ scores were associated with these skills at levels of magnitude comparable to associations between aptitude and achievement measures and these skills. Communication skills included reading comprehension, measured by the *McCall-Crabbs Standard Test Lessons in Reading*, and characteristics of spelling and writing performance determined through analysis of student compositions. Two types of variables were compiled for the compositions: first, for a nationally-representative sample of about 3,000 students for each form, computerized analysis procedures counted variables, such as total words written, unique words written,

percent words misspelled, and average number of words per sentence; second, random subsamples of about 250 students for each form were taken from the larger validation samples, and the compositions for these students were rated for quality using the ETS Composition Rating Scale developed by Paul Diederich. These variables were studied because they are basic communication skills which are crucial to progress in school. Despite the fact that they are relatively difficult to measure and analyze, it was felt that study of these variables would illuminate the association between the VAAQ scores and pupil performance. Further, correlations between these skill areas and the VAAQ could be compared with similar correlations between the communication skills and standardized aptitude and achievement test scores; this would indicate the relative usefulness of the VAAQ attitudinal measures in predicting school performance.[31, 32, 33]

The correlations for each form* of the VAAQ are presented in Tables V-VIII. For each form, the VAAQ Total scores and specific VAAQ Subscale scores are significant predictors of performance in the communications skills. These correlations substantiate the correlations discussed earlier between the VAAQ scores and standardized achievement test scores, by showing high associations between the VAAQ and a second, more detailed and specific type of performance measure. Secondly, the magnitude of the VAAQ score correlations can be compared with the correlations for the achievement and aptitude measures shown in the same tables. It can be

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*For the Primary form, standardized test scores were not available for the validation sample.

seen that the VAAQ scores approach or exceed the aptitude and specific achievement test scores in the strength of their correlations with the communication skills. The comparability of the VAAQ in predicting performance was true for cognitively-based variables, such as spelling, reading comprehension and writing quality, as well as for writing-productivity measures, such as total words written which could be expected to be determined more by student attitudes in school.

As another check on validity, the 1974-75 data were used to group the pupils according to their Total VAAQ score. Pupils in the top third, middle third, and bottom third were grouped together. Their performance on the composition exercise was compared by analysis of variance, and it was found that the groups differed significantly in total words written, number of unique words used, number of total misspellings, and number of unique words misspelled. They did not differ in average number of words per sentence.

Generally, these construct validation studies indicated that the VAAQ validly measures student attitudes which are related consistently and predictably with student achievement, with basic learning skills, with specific improvements in instruction and classroom climate, and with parallel scales on other instruments. Particularly important in these studies is the finding that the VAAQ not only is correlated strongly with standardized achievement measures, but is also comparable to aptitude and achievement measures in predicting specific communication skills.

(C) Status Validity

Status validity is concerned with the usefulness of the instrument in distinguishing students of one type or group from students of an opposite group status. For instance, an adjustment inventory might be expected to differentiate juveniles with a criminal record from those with no record.

VAAQ data collected in 1969-70 and in 1974-75 enabled analysis of the scores of pupils with particular problems related to their school progress. VAAQ scores of students who fell behind grade level in school and of students who engaged in drug-abuse were studied. Students tested in the 1969-70 Needs Assessment project in grades 4 and 7 were relocated and tested again in 1974. A number of the original students had fallen behind grade level in the intervening five-year period. This group was compared with the group which did not fall behind grade level on aptitude (SCAT Verbal, Quantitative and Total), achievement (STEP), and attitude (VAAQ) scores. The two groups were similar statistically on ability and attitudes in 1969; the group which was to fall behind grade level was statistically lower in most STEP achievement subtests in 1969. On the 1974 testing, the behind-grade-level group was still similar to the other on ability, lower by the same amount on achievement, but on the VAAQ scores, this group was significantly *lower* on Citizenship, Self-Esteem, Interpersonal Relations and the Total score.[34]

In the drug abuse study, students from the 1969-70 Needs Assessment were relocated, and random subsets in each grade level (9 and 12) were asked to fill out a drug abuse practices questionnaire.

These responses were used to classify the pupils as users of illicit drugs or as non-users, or users of alcohol only. Attending to the specific items of the VAAQ, the user group was less positive in attitudes and less able to control their feelings and frustrations than the group of non-users and alcohol-only users. These studies indicated that the VAAQ scales measure attitudes which are related in a predictable manner to student behaviors which affect student success in school.[35]

(D) Summary

The three types of validation study have indicated the validity of the VAAQ in measuring student attitudes related to school success. Content analysis and revision of the items has been conducted through three cycles, insuring the face validity and appropriateness of the forms for their intended pupil levels. Through seven years of study of VAAQ scores in factor analysis, in relation to similar instruments, in relation to student achievement, and in pilot studies aimed at improving instruction and classroom climate, the VAAQ has been found to behave in a consistent and predictable manner, indicating that it is a useful measure of students' attitudes related to their success in school. Finally, study of students with particular behavior patterns related to school progress have shown the instrument to be useful in distinguishing student groups which would be expected to differ in attitudes toward school. The VAAQ is effective in measuring those student attitudes which are associated with school success.

Through this multi-staged effort a school-specific measure of children's attitudes was developed which has been normed for each grade level K through 12. It should be useful to program administrators, evaluators and planners in assessing attitudinal variables which impinge on the success of school programs. It should also be useful to classroom teachers as a screening instrument and as a means of determining the attainment of affective objectives related to achievement.

TABLE II

CORRELATIONS BETWEEN AFFECTIVE SCORES
AND COGNITIVE MEASURES

Fall, 1974

Elementary Form

	VAAQ SCORES				
	Citizenship	School, Education and Learning	Interpersonal Relations	Self-Esteem	Total
SRA Achievement					
Composite	.172*	.414*	.179*	.164*	.472*
Total Reading	.155*	.382*	.163*	.175*	.446*
Total Language Arts	.183*	.402*	.185*	.138*	.450*
Total Math	.131*	.350*	.142*	.138*	.395*
Social Studies	.140*	.358*	.162*	.160*	.418*
Science	.142*	.351*	.170*	.163*	.414*
Use of Sources	.147*	.372*	.158*	.159*	.428*
		N =			

*Denotes a correlation significant at the.001 level.

TABLE III

CORRELATIONS BETWEEN AFFECTIVE SCORES
AND COGNITIVE MEASURES

Fall, 1974

Intermediate Form

	VAAQ SCORES				
	Citizenship	School, Education and Learning	Interpersonal Relations	Self-Esteem	Total
STEP Achievement					
Reading	.317*	.329*	.052*	.201*	.458*
English Expression	.284*	.310*	.036*	.195*	.423*
Writing	.301*	.341*	.051*	.152*	.435*
Spelling	.259*	.296*	.043*	.118*	.370*
Math Concepts	.241*	.293*	.052*	.177*	.383*
Math Computation	.269*	.320*	.057*	.165*	.411*
Social Studies	.288*	.310*	.036*	.195*	.423*
Science	.319*	.327*	.056*	.210*	.464*
		N =			

*Denotes a correlation significant at the .001 level.

TABLE IV

CORRELATIONS BETWEEN AFFECTIVE SCORES
AND COGNITIVE MEASURES

Fall, 1974

Secondary Form

	VAAQ SCORES				
	Citizenship	School, Education and Learning	Interpersonal Relations	Self-Esteem	Total
STEP Achievement					
Reading	.428*	.328*	.230*	.145*	.516*
English Expression	.387*	.335*	.229*	.152*	.500*
Writing	.341*	.277*	.190*	.431*	.354*
Spelling	.306*	.258*	.174*	.113*	.387*
Math Concepts	.326*	.254*	.221*	.121*	.417*
Math Computation	.277*	.208*	.185*	.124*	.359*
Social Studies	.338*	.242*	.209*	.126*	.414*
Science	.364*	.306*	.237*	.143*	.476*
		N =			

*Denotes a correlation significant at the .001 level.

TABLE V

Correlations Between VAAQ Scores and Communications Skills Variables

Primary Form
1976 Data

	Total Words Written	Unique Words Written	Words Per Sentence	Percent Total Words Misspelled	Percent Unique Words Misspelled	McCall-Crabbs	Deiderich
VAAQ Total	.21	.23	.01	-.21	-.21	.49	
Citizenship	.02	.05	.00	-.06	-.06	.21	
School, Ed and Learning	.22	.23	-.02	-.19	-.17	.36	
Interpersonal Relations	.02	.01	.00	-.09	-.12	.12	
Self-Esteem	.11	.14	.05	-.11	-.10	.35	

Standardized test scores were not available for the Primary form validation sample.

TABLE VI

Correlation of Cognitive Measures and VAAQ Scales
With Language Production Variables

Elementary Level

	Total Words Written	Unique Words Written	Words Per Sentence	Percent Total Words Misspelled	Percent Unique Words Misspelled	McCall-Crabbs	Deiderich**
STEA Aptitude	.28*	.39*	-.15*	-.29*	-.31*	.58*	.58*
SRA Composite	.39*	.50*	-.20*	-.40*	-.42*	.73*	.69*
Language Arts, Spelling	.37*	.46*	-.17*	.45*	-.47*	.64*	.65*
Language Arts, Usage	.38*	.47*	-.20*	-.37*	-.39*	.67*	.67*
Language Arts, Total	.40*	.50*	-.20	-.43*	-.45*	.70*	.70*
Reading, Comprehension	.33*	.44*	-.17*	-.31*	-.32*	.65*	.60*
Reading, Vocabulary	.34*	.46*	-.18*	-.34*	-.36*	.69*	.63*
Reading Total	.35*	.47*	-.18*	-.33*	-.36*	.70*	.64*
VAAQ Total	.25*	.31*	-.12*	-.25*	-.25*	.44*	.34*
Citizenship	.11*	.12*	-.05*	-.12*	-.11*	.16*	.18*
School, Ed and Learning	.25*	.30*	-.11*	-.26*	-.26*	.39*	.38*
Interpersonal Relations	.14*	.16*	-.04*	-.11*	-.11*	.19*	.15*
Self-Esteem	.01	.05*	-.06*	.00	-.01	.15*	-.04*

*Significant at the .05 level.
**Diederich quality ratings compiled for a subsample of approximately 250 pupils.

TABLE VI

Correlations of Cognitive Measures and VAAQ Scales
With Language Performance Variables

Intermediate Level

	Total Words Written	Unique Words Written	Words Per Sentence	Percent Total Words Misspelled	Percent Unique Words Misspelled	McCall-Crabbs	Deiderich**
SCAT Aptitude: Total	.20*	.30*	-.13*	-.31*	-.34*	.61*	.61*
Verbal	.17*	.26*	-.14*	-.26*	-.28*	.58*	.59*
Quantitative	.19*	.27*	-.12*	-.29*	-.32*	.54*	.53*
STEP:Concepts	.18*	.23*	-.11*	-.27*	-.28*	.50*	.51*
Reading	.24*	.34*	-.12*	-.32*	-.35*	.61*	.61*
Spelling	.23*	.30*	-.13*	-.42*	-.46*	.44*	.52*
Writing	.25*	.32*	-.14*	-.43*	-.46*	.52*	.61*
English Expression	.20*	.29*	-.11*	-.34*	-.37*	.51*	.55*
VAAQ: TOTAL	.23*	.28*	-.10*	-.20*	-.21*	.51*	.45*
Citizenship	.22*	.26*	-.07*	-.18*	-.18*	.37*	.39*
School, Ed and Learning	.18*	.21*	-.11*	-.21*	-.21*	.37*	.35*
Interpersonal Relations	-.04*	-.03	.02	.02	.01	.06*	.08
Self-Esteem	.04*	.06*	-.03	.00	-.01	.21*	-.05

*Significant at the .05 level.
**Diederich quality ratings compiled for a subsample of approximately 250 pupils.

TABLE VIII

Correlations of Cognitive Measures and VAAQ Scales
With Language Performance Variables

Secondary Level

	Total Words Written	Unique Words Written	Words Per Sentence	Percent Total Words Misspelled	Percent Unique Words Misspelled	McCall-Crabbs	Deiderich**
SCAT Aptitude: Total	.13*	.24*	-.01*	-.18*	-.21*	.66*	.53*
Verbal	.12*	.24*	-.02*	-.18*	-.20*	.86*	.51*
Quantitative	.11*	.22*	-.01*	-.16*	-.18*	.57*	.37*
STEP: CONCEPTS	.11*	.21*	-.02*	-.16*	-.18*	.54*	.42*
Reading	.16*	.27*	-.02*	-.20*	-.22*	.69*	.57*
Spelling	.19*	.28*	-.04*	-.36*	-.40*	.52*	.49*
Writing	.19*	.29*	-.04*	.35*	-.39*	.60*	.59*
English Expression	.16*	.27*	.01	-.25*	-.27*	.65*	.60*
VAAQ:TOTAL	.13*	.21*	.01	-.12*	-.13*	.48*	.44*
Citizenship	.04*	.05*	-.01	-.03	-.03*	.40*	.21*
School, Ed & Learning	.00*	.13*	.03	-.09*	-.10*	.32*	.36*
Interpersonal Relations	.02	.07*	-.01	-.04*	-.05*	.22*	.26*
Self-Esteem	.05*	.07*	-.00	-.05*	-.06*	.16*	.16*

*Significant at the .05 level.
**Diederich quality ratings compiled for a subsample of approximately 250 pounds.

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